UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Attachments

BIG RIVER II
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Big River-Lead Mine Tailings-St Joe Minerals Enforcement Recommendation

11-12-80

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40111143

SUPERFUND RECORDS

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Director, ENFC

1 The background and present status of this matter are presented in the attached memorandum prepared by Don Toensing, CPML, previously submitted (Attachment A)

2 Recent studies by the Missouri Department of Conservation have found elevated levels of lead in the flesh of fish in the Big River downstream of the tailings pile Levels were much higher in sucker fish, which are bottom feeders, suggesting that the fish may ingest the tailings as they feed (Attachment B) At least one other hypothesis has been suggested, and the lead uptake mechanism is not definitely known

3 The Missouri Department of Health has issued a warning to the public not to eat suckers from the Big River, a popular activity in the fall (Attachment C) The Department is presently conducting studies to determine the blood lead levels of people in the vicinity of Big River These studies will help determine the actual danger posed by various levels of fish consumption

4 Professor John Novak, University of Missouri at Columbia, in a study of the problem for the Missouri Department of Natural Resources states

> "Erosion continues at this site and although the current level of discharge is small, the potential exists for significant quantities of additional material to move into the Big River "

Novak recommends a $200,000 program for stabilizing the tailings pile Robert Hentges, MDNR's Water Pollution Control Program Permit Section Chief, has been closely involved with the problem from the start and believes a much larger expenditure may be required to permanently stabilize the pile MDNR is presently involved in negotiations with St Joe Minerals involving the cleanup St Joe is reported to have offered to fund the Novak approach At the request of MDNR staff, the Missouri Clean Water Commission on October 29, 1980, postponed action on the matter until its next meeting to permit the negotiations to proceed

5 Hentges, while believing that the stabilization of the pile is of great importance, is convinced that natural forces will cope more successfully with the tailings already in the river than any dredging

CONCURRENCES

SYMBOL	LEGL	LEGL	LEGL	CMPL				
SURNAME	Watt	Stimon	Watt	Sandborn				
DATE	11/4/80	11/5/80	11/11/80	11/4/80				

EPA Form 1320-1 (12-70)

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program could His view is shared by the Missouri Department of Conservation which notes the complete destruction of the ecology of the stream which a dredging program would entail

6 The Corps of Engineers, seeking to protect the water quality of a proposed reservoir downstream, requested legal action from the Department of Justice two years ago, pursuant to the Rivers and Harbor Act, 33 U S C 407 No action was filed, and Toby Kennedy at the Department of Justice is trying to find out what happened Studies for the Corps of Engineers being performed by the U S Fish and Wildlife Service suggest that levels of lead in the reservoir waters would be too high to permit the reservoir to be used as a water supply, and the Corps of Engineers is expected to be less interested in this problem now for that reason Nonetheless, they may be willing to join with us in any legal action

7 Regulations issued the last of October reportedly exempt certain mining wastes from the requirements of RCRA The regulations will be reviewed as soon as they are received

RECOMMENDATION

In view of (1) the elevated lead levels in fish flesh leading to the Missouri Department of Health's warning against consumption of fish, and (2) the potential expressed by Dr Novak, that additional significant contamination of the river will occur, the finding of imminent and substantial endangerment required by both Clean Water Act Section 311(e) and RCRA Section 7003 appears likely In addition, St Joe Minerals has apparently violated the Rivers and Harbors Act by depositing refuse "on the bank of any navigable water [or tributary thereof], where the same shall be liable to be washed into such navigable water whereby navigation shall or may be impeded or obstructed "

It is recommended that a litigation report be prepared at once, citing violations of the above statutes

Attachments

ENFC-LEGL BWard cdl 11/4/80 Doc No 0499A

memo prepared by D Toensing EN FC/COMP - 1980

Attachment 1

LEAD MINE TAILINGS - BIG RIVER

Background

St Joe Minerals Corporation deposited lead mine tailings near Desloge Missouri for approximately thirty years (1929-1958) The tailings pile covers approximately 500 acres at a depth of 0 to 100 feet inside a horseshoe bend of the Big River The tailings are reportedly 2-4% lead

In 1972, the site was donated by St Joe Minerals to St Francis County who in turn donated it to the St Francis County Environmental Corporation (not for profit corporation) In 1973 the corporation established an approved sanitary landfill within a portion of the tailings of pile

In 1977, an immense quantity of tailings (possibly 50,000 cubic yards) washed into the Big River apparently in a single event Smaller erosion areas have continued to deposit tailings in the river since that time The Missouri Department of Conservation estimates that over 20 miles of the Big River have been affected by the tailings For several miles downstream of the tailings pile the primary constituent of the stream bottom is mine tailings

EPA Involvement

At the request of MDNR, SVAN conducted an intensive survey of the Big River in late 1977 Their general findings were that the Big River was degraded (based on aquatic population density and diversity) by the mine tailing but mainly as a result of the physical changes in the stream bottom rather than chemical toxicity

In March 1978 the EPA as well as other state and Federal agencies received a letter from MDNR requesting assistance of any kind in correcting the problem In April, EPA replied that the problem could fall under either 301 (point source discharge) or 311 (discharge of a hazardous substance) of the FWPCA At the time the 311 regulations were not final and the applicability of 311 was not known EPA offered assistance (other than monetary) in pursuing either of these two approaches

Present Status

The Corps of Engineers referred this case to the Department of Justice about 1 1/2 years ago under the Refuse Act The details of the proposed lawsuit are unknown It is still awaiting some action by the DOJ according to a Corps of Engineers attorney

The Department of Conservation has recently produced evidence of elevated lead levels in fish downstream of the tailings pile There are also some reports of elevated lead levels in the blood of people living in the Desloge area Also the Corps of Engineers has found elevated cadmium levels in fish taken from the Big River approximately 25 miles downstream of Desloge

A consultant hired by MDNR recently concluded that unless remedial work was done to stabilize the pile, another catastrophic washout of mine tailings could occur

The Missouri/EPA agreement for FY-81 commits MDNR to evaluate past studies on the Big River and recommend an implementable sollution EPA is committed to "identify and assist in securing funds from available sources to implement solutions recommended for the tailings pile problem on the Big River

Alternatives

1 The drainage structures installed by St Joe Minerals are probably point sources' under the Clean Water Act These structures collect and discharge stormwater falling on the pile The discharges to the Big River would almost inevitably contain pollutants in the form of mine tailings

The major drawback to this approach is that the vast majority of the tailings do not reach the river via the 'point sources", but rather through non-point source discharges

2 The discharge of tailings to the river might be classified as discharges of hazardous substances under 311

The lead ore mined in this area is primarily galena which is Lead Sulfide Lead Sulfide is a hazardous substance under the 311 regulations and has no doubt been discharged to the river in reportable quantities (i e 5000 lbs)

3 Information on this problem was submitted to ARHM in March, 1980 as a possible uncontrolled hazardous waste site In July, 1980 ARHM declined to list it as an uncontrolled site because the State seems to have this situation under control On September 15, 1980 this site was resubmitted to ARHM along with preliminary assessment form We have received no response as yet from ARHM

A review of the RCRA regulations indicates that the lead mine tailings are a hazardous waste

The State hazardous waste regulations, however specifically exclude those mine tailings from the definition of hazardous waste

Recommendations

1 A possible 311(c) action in the U S District Court for the Eastern District of Missouri could be initiated to abate the threat of another catastrophe like the one which occurred in 1977

2 A RCRA §7003 case is also possible as there is fairly pursuasive evidence of environmental damage to aquatic life

The potential parties to either of these actions would be St Joe Minerals Corporation, St Francis County, and the St Francis County Environmental Corporation

Related Information

1 There is apparently no documentation of any significant discharge of mine tailings to the river during the period of time that the site was owned and maintained by St Joe Minerals Corporation

2 There are numerous other large deposits of mine tailings in this area however this particular site is the only one known to present a siginficant hazard to surface waters

3 The consultant hired by MDNR feels that the operation of a sanitary landfill in the tailings pile is not advisable This is based on his findings that large amounts of lead are mobilized" by organic acids of the type that would be contained in leachate from a sanitary landfill

State solid waste personnel do not evidently agree with this finding